Applied Remote Sensing

Terrence Slonecker/Taylor Jarnagin/Bruce Jones
Research Environmental Scientist
ORD/NERL
703-648-4289
slonecker.t@epa.gov

Key Words: remote sensing, impervious surfaces, hyperspectral imaging, land cover, landscape indicators, LIDAR, UXO (unexploded ordnance)

Remote sensing is a scientific discipline of noncontact monitoring. It includes a range of technologies that span from aerial photography to advanced spectral imaging and analytical methods. This Session is designed to demonstrate contemporary practical applications of remote sensing in supporting the Agency's efforts in supporting healthy communities and healthy ecosystems. Six presentations will document how remote sensing is playing a critical role in protecting human and ecological health on both a National/Regional scale and on a local/site-specific scale.

In the National/Regional applications area, Jim Wickham (NERL) will present on the development and utilization of the National Land Cover Database (NLCD). Second, Bruce Jones (ORD) will present on the development of Landscape Indicators from the NLCD and their relationship to ecosystem quality. Third, Karl Hermann (Region 8) will present on the develop of nutrient-loading statistics from both the NLCD and landscape indicators for specific application in Region 8.

In the site-specific area, Taylor Jarnagin (NERL) will present research on the mapping of Impervious Surfaces and their relationship to stream flow, water quality, and watershed protection. David Jennings (NERL) will present the application of high-resolution LIDAR data in the Clarksburg, MA, Special Protection Area, discussing the use of this emerging technology as a new and potentially significant tool in watershed modeling. Finally, Steve Hirsh (Region 3) will present the use of remote sensing to remediate buried munitions and arsenic contamination at the Spring Valley FUDS site in Washington, D.C.